

### **REMARKS**

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the Amendment places the application in condition for allowance for the reasons discussed herein; and does not raise any new issues requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution. Entry of the Amendment is thus respectfully requested.

Claims 1 and 9 are amended herein. Basis for the amendments may be found throughout the application as filed, especially at page 3, lines 2-10, page 7, lines 6-21 and claims 7-8, and thus no new matter is set forth by way of the present Amendment. Applicants note that claim 2 was cancelled in the Amendment filed on July 25, 2005, and note the cancellation of claim 2 herein. Claim 10 is cancelled herein. Applicants reserve the right to file at least one continuation application directed to any subject matter cancelled by way of the present Amendment.

### **Objections To The Claims**

Claims 9-16 stand objected as purportedly depending on cancelled claims. Claim 9 is amended herein to depend on claim 3, and claim 10 is cancelled herein as now redundant. Applicants request that these objections be withdrawn.

### **Rejections Under 35 U.S.C. §112, first paragraph**

Claims 1-3, 9-16 and 25-31 stand rejected under 35 U.S.C. §112, first paragraph, as purportedly failing to comply with the written description requirement. The Office asserts that the claims as directed to any process for preparing any amide-containing solution using any microorganism fungus body containing any nitrile hydratase of any amino acid or structure lack support. Applicants traverse.

Applicants submit that the present claims do not recite all enzymes and/or all microorganisms, but instead, are directed to a process for purifying an amide compound-containing solution comprising contacting with activated carbon under acidic conditions for removing protein and separating activated carbon. The claims further recite that the amide compound has an unsaturated bond and is produced by contacting a nitrile compound with a nitrile hydratase, a microorganism fungus body

containing the nitrile hydratase or a processed product of the microorganism fungus body. Applicants have amended the claims herein to clarify these points.

The skilled artisan could identify the enzyme and microorganism fungus body as claimed. Applicants note that a genus can be claimed, if species are exemplified. To this end, Applicants discuss the following species. The nitrile hydratase referred herein is an enzyme having capability of hydrolyzing a nitrile compound to produce a corresponding amide compound (please refer to the specification at page 7, lines 22-24). With regard to the microorganism, Applicants refer to page 7 of the specification, through page 9, line 20 and as well as the Examples. With regard to the processed product, Applicants refer to page 9, line 21 to page 10, line 5, of the specification.

By way of further support, Applicants refer to Japanese Patent No. 9275978 A cited on page 20, line 11 of the specification. Applicants note that U.S. Patent No. 5,807,730 is the U.S. equivalent, and provide a copy of the '730 patent herewith. These documents recite a process for the preparation of pPT-DB1 plasmid DNA, as used in Example 3 in the specification (Col. 11, Example 3). These documents further discuss an amino acid sequence and gene sequence of a *Pseudonocardia thermophila*-derived nitrile hydratase and recombinant plasmid having said gene, transformant having said plasmid, a method for producing said enzyme using cells of said transformant, and method of processing a nitrile compound with cells of said transformant to produce the corresponding amide compound from it (Col. 2, lines 12-20).

Applicants also provide herewith a copy of U.S. Patent No. 6,043,061. The '061 patent relates to a process for producing an amide compound by acting on a nitrile compound which has a low concentration of hydrocyanic acid with nitrile hydratase.

Column 4, lines 27-28, of the '061 patent describe that nitrile hydratase may be derived from any genus of microorganism. Lines 22-52 describe the genus and a processed product thereof. The '061 patent provides further support to the present claims.

In light of the above, Applicants submit the claims are supported by the specification such that the skilled artisan would understand the inventors had

possession of the invention at the time of filing. Applicants request that this rejection be withdrawn.

**Rejections Under 35 U.S.C. §103**

Claims 1-3, 9-16 and 25-31 stand rejected under 35 U.S.C. §103(a) as purportedly unpatentable over Oriel et al. (WO 99/55719) ("Oriel") in view of Chen. (*J Biol Chem.* 1967 Jan 25;242(2):173-81) ("Chen"). The Office states that since the claims do not recite a process for removing protein, the references do not need to disclose this particular limitation. Applicants traverse.

Applicants note that Chen discloses that the acid-charcoal treatment was preformed in order to remove lipid impurities, and not for removing a protein. Thus, the skilled artisan would be not motivated to modify Oriel to remove a protein, based on the disclosure of Chen.

Applicants further note that it is conventionally known that an amide compound having an unsaturated bond can cause a polymerization reaction in an acidic region, making a compound unstable. In order to avoid this instability, it is important that the solution containing an amide compound is maintained neutral (please see page 3, lines 11-18 of the specification). Thus, the charcoal treatment of unsaturated amide-containing solution under acidic condition would not be obvious to one of ordinary skill in the art. The skilled artisan would not have motivation to combine the Chen and Oriel references to arrive at the present invention.

In light of the above remarks, Applicants request that the rejections under 35 U.S.C. § 103 be withdrawn.

**CONCLUSION**

It is respectfully submitted that all rejections have been overcome by the above amendments. Thus, Notice of Allowance is respectfully requested.

In the event that there are any questions relating to this Amendment or the application in general, it would be appreciated if the Examiner would contact the undersigned attorney by telephone at (703) 836-6620 so that prosecution of the application may be expedited.

Respectfully submitted,

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(INCLUDING THE ATTORNEYS FROM BURNS DOANE SWECKER & MATHIS)

Date: June 16, 2006

By: \_\_\_\_\_



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